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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/797,673	03/10/2004	Ashish M. Sukhadia	CPCM:0046/FLE/FAR/STA 210	4144
47514 7590 10/18/2007 FLETCHER YODER (CHEVRON PHILLIPS) P. O. BOX 692289 HOUSTON, TX 77069			EXAMINER LEE, RIP A	
			ART UNIT 1796	PAPER NUMBER
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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/797,673	Applicant(s) SUKHADIA ET AL.	
	Examiner Rip A. Lee	Art Unit 1796	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 12 July 2007.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-15, 18-33, 36-43 and 46-48 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-15, 18-33, 36-40, 42, 43 and 46-48 is/are rejected.
- 7) ☒ Claim(s) 1, 20, 38, 40, 41, and 46-48 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
 Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

This office action follows a response filed on July 12, 2007. Independent claims 1, 20, 38, and 46-48 were amended. Claims 1-15, 18-33, 36-43, and 46-48 remain pending.

Claim Objections

1. Claims 1, 20, 38, and 46-48 are objected to because of the following informalities: The claims are written imprecisely since any solid oxide support containing titania can not be substantially free of titanium. Appropriate corrections are required.

2. Claims 40 and 41 are objected to under 37 CFR 1.75(c), as being of improper dependent form for failing to further limit the subject matter of a previous claim. Applicant is required to cancel the claim(s), or amend the claim(s) to place the claim(s) in proper dependent form, or rewrite the claim(s) in independent form.

Claim 40 contains compounds that have been excluded in independent claim 38. In claim 40, all compounds on page 18 of the response, except for octylphenylsilyl*bis*(1-indenyl)hafnium dichloride appear in claim 38. Continuing on page 19, the compounds 1,2-ethanediyl*bis*(9-fluorenyl)zirconium dichloride, methyloctylsilyl*bis*(9-fluorenyl)zirconium dichloride, *rac*-ethylene*bis*(2-methyl-1-indenyl)zirconium dichloride, and *rac*-dimethylsilyl*bis*(tetrahydro-indenyl)zirconium dichloride appear to be repetitive.

Both compounds recited in claim 41 have been excluded in claim 38.

Claim Rejections - 35 USC § 102 / 35 USC § 103

3. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

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4. Claims 1-15, 18-33, 36, 37, 46, and 47 are rejected under 35 U.S.C. 102(e) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over McDaniel *et al.* (U.S. 6,548,442).

McDaniel *et al.* teaches a catalyst composition comprising the contact product of at least one organometal compound, at least one organoaluminum compound, and at least one treated solid oxide, wherein said treated solid oxide comprises at least one halogen, zirconium, and a solid oxide (claim 1). The solid oxide is alumina (claim 2). Specific examples of treated solid oxide are chlorided zirconium-containing alumina and fluorided zirconium-containing alumina (examples 1C and 3C). Note that the support is substantially free of titanium, molybdenum, and tungsten.

Useful metallocenes for making inventive catalysts are the bridged metallocenes depicted in columns 5-10. One specific example of metallocene, nonyl(phenyl)silylbisindenyl hafnium dichloride, is depicted in col. 7, line 1. Other bridged metallocenes that are useful for practicing the invention include isopropylidene(cyclopentadienyl)(fluorenyl)zirconium dichloride and diphenylsilyl(cyclopentadienyl)(fluorenyl)zirconium dichloride.¹ Organoaluminum compounds are described in full in column 10. Catalyst components are contacted in isobutene as the inert diluent, as shown in the experimental section. Aluminoxanes and ionic activators such as fluorinated organoborates may be used in certain conditions (col. 14, lines 41-44).

McDaniel *et al.* teaches that catalysts are useful in preparing copolymers of ethylene and at least one monomer selected from the group consisting of propylene, 1-butene, 1-hexene, *etc.* (col. 15, lines 6-10). In this connection, it noted that catalysts are shown in the examples to be useful in preparing ethylene-hexene copolymers. Thus, the catalyst and process of use for preparing copolymer is taught fully by the prior art.

McDaniel *et al.* is deficient in characterizing the resulting polymer as recited in the instant claims. However, in view of the fact that the process of preparing polymer is substantially the same as that recited in the instant claims, a reasonable basis exists to believe that the resulting polymer exhibits substantially the same properties and characteristics. (It is noted that the claims are drawn to a method of polymerizing olefins, rather than a process for making film. It is the examiner's position that the film properties recited in the instant claims are

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conditional properties, rather than inherent properties, because a variety of factors such as stretching methods, nucleation, *inter alia*, directly affect film clarity and film haze). Since the PTO can not perform experiments, the burden of proof is shifted to the Applicants to establish an unobviousness difference. *In re Fitzgerald*, 619 F.2d. 67, 205 USPQ 594 (CCPA 1980). See MPEP § 2112-2112.02. *In re Best*, 562 F.2d 1252, 1255, 195 USPQ 430, 433 (CCPA 1977).

5. Claims 38-40, 42, 43 and 48 are rejected under 35 U.S.C. 102(e) as anticipated by McDaniel *et al.* (U.S. 6,548,442).

McDaniel *et al.* teaches a catalyst composition comprising the contact product of at least one organometal compound, at least one organoaluminum compound, and at least one treated solid oxide, wherein said treated solid oxide comprises at least one halogen, zirconium, and a solid oxide (claim 1). The solid oxide is alumina (claim 2). Specific examples of treated solid oxide are chlorided zirconium-containing alumina and fluorided zirconium-containing alumina (examples 1C and 3C). One specific example of metallocene, nonyl(phenyl)silylbisindenyl hafnium dichloride, is depicted in col. 7, line 1. Other bridged metallocenes that are useful for practicing the invention include isopropylidene(cyclopentadienyl)(fluorenyl)zirconium dichloride and diphenylsilyl(cyclopentadienyl)(fluorenyl)zirconium dichloride.¹ Organoaluminum compounds are described in full in column 10. As such, the subject matter of the instant claims is fully anticipated by McDaniel *et al.*

6. Claims 1-15, 19-33, 37, 46, and 47 are rejected under 35 U.S.C. 102(e) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over Hawley *et al.* (U.S. 6,667,274).

Hawley *et al.* teaches a catalyst composition comprising the contact product of at least one organometal compound, at least one organoaluminum compound, and at least one treated solid oxide, wherein said treated solid oxide comprises at least one halogen, zirconium, and a solid oxide (claim 1). Solid oxide supports are alumina, silica-zirconia, and silica-zirconia (col.

¹ McDaniel *et al.* (col. 4, lines 40-45) teaches that known metallocenes are used to make inventive catalysts such as those shown in Geerts (U.S. 5,480,848; col. 7, line 2) and Palackal *et al.* (U.S. 5,401,817; claim 9), the entire disclosure of which is incorporated by reference.

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4, lines 30 and 33) that have been treated with sulfate, fluoride, chloride, or bromide (col. 4, lines 41-45) with chlorided alumina and fluorided alumina being especially useful (Table II). Note that supports are substantially free of titanium, molybdenum, and tungsten.

Useful metallocenes for making inventive catalysts are the bridged metallocenes depicted in columns 9-12. One specific example of metallocene, octyl(phenyl)silylbisindenyl hafnium dichloride, is depicted in col. 10, line 15. Other bridged metallocenes that are useful for practicing the invention include isopropylidene(cyclopentadienyl)(fluorenyl)zirconium dichloride and diphenylsilyl (cyclopentadienyl)(fluorenyl)zirconium dichloride.² Organoaluminum compounds are described in full in column 12. Aluminoxanes and ionic activators such as fluorinated organoborates may be used in certain conditions (col. 13, lines 64-67).

Hawley *et al.* teaches that under slurry conditions, the catalyst effects polymerization of propylene with ethylene very well (col. 14, lines 39). Thus, the catalyst and process of use for preparing ethylene-propylene copolymer is taught fully by the prior art.

Hawley *et al.* is deficient in characterizing the resulting polymer as recited in the instant claims. However, in view of the fact that the process of preparing polymer is substantially the same as that recited in the instant claims, a reasonable basis exists to believe that the resulting polymer exhibits substantially the same properties and characteristics. (It is noted that the claims are drawn to a method of polymerizing olefins, rather than a process for making film. It is the examiner's position that the film properties recited in the instant claims are conditional properties, rather than inherent properties, because a variety of factors such as stretching methods, nucleation, *inter alia*, directly affect film clarity and film haze). Since the PTO can not perform experiments, the burden of proof is shifted to the Applicants to establish an unobviousness difference. *In re Fitzgerald*, 619 F.2d. 67, 205 USPQ 594 (CCPA 1980). See MPEP § 2112-2112.02. *In re Best*, 562 F.2d 1252, 1255, 195 USPQ 430, 433 (CCPA 1977).

² Hawley *et al.* (col. 8, line 65 – col. 9, line 6) teaches that known metallocenes are used to make inventive catalysts such as those shown in Geerts (U.S. 5,480,848; col. 7, line 2) and Palackal *et al.* (U.S. 5,401,817; claim 9), the entire disclosure of which is incorporated by reference.

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7. Claims 38-40, 42, 43 and 48 are rejected under 35 U.S.C. 102(e) as being anticipated by Hawley *et al.* (U.S. 6,667,274).

Hawley *et al.* teaches a catalyst composition comprising the contact product of at least one organometal compound, at least one organoaluminum compound, and at least one treated solid oxide, wherein said treated solid oxide comprises at least one halogen, zirconium, and a solid oxide (claim 1). Solid oxide supports are alumina, silica-zirconia, and silica-zirconia (col. 4, lines 30 and 33) that have been treated with sulfate, fluoride, chloride, or bromide (col. 4, lines 41-45) with chlorided alumina and fluorided alumina being especially useful (Table II). Note that supports are substantially free of titanium, molybdenum, and tungsten. One specific example of metallocene, octyl(phenyl)silylbisindenyl hafnium dichloride, is depicted in col. 10, line 15. Other bridged metallocenes that are useful for practicing the invention include isopropylidene(cyclopentadienyl)(fluorenyl)zirconium dichloride and diphenylsilyl (cyclopentadienyl)(fluorenyl)zirconium dichloride.² Organoaluminum compounds are described in full in column 12. As such, the subject matter of the instant claims is fully anticipated by Hawley *et al.*

8. Claim 48 is rejected under 35 U.S.C. 102(b) as being anticipated by McDaniel *et al.* (U.S. 6,376,415).

McDaniel *et al.* teaches a catalyst composition comprising the contact product of at least one organometal compound, at least one organoaluminum compound, and at least one treated solid oxide, wherein said treated solid oxide comprises a halogen selected from chloride or bromide, molybdenum or tungsten, and alumina (claim 1). Note that supports are substantially free of titanium. One specific example of metallocene, nonyl(phenyl)silylbisindenyl hafnium dichloride, is depicted in col. 6, line 52. Other bridged metallocenes that are useful for practicing the invention include isopropylidene(cyclopentadienyl)(fluorenyl)zirconium dichloride and diphenylsilyl (cyclopentadienyl)(fluorenyl)zirconium dichloride.³ Organoaluminum compounds are described in full in column 10. As such, the subject matter of the instant claims is fully anticipated by McDaniel *et al.*

9. Claims 46 and 47 are rejected under 35 U.S.C. 102(b) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over McDaniel *et al.* (U.S. 6,376,415).

The discussion of the disclosures of the prior art from the previous paragraph of this office action is incorporated here by reference. Inventive catalysts are useful for copolymerization of ethylene with at least one monomer selected from the group consisting of propylene, 1-butene, 1-hexene, *etc.* (col. 14, lines 24-28). Thus, the catalyst and process of use for preparing copolymer is taught fully by the prior art.

McDaniel *et al.* is deficient in characterizing the resulting polymer as recited in the instant claims. However, in view of the fact that the process of preparing polymer is substantially the same as that recited in the instant claims, a reasonable basis exists to believe that the resulting polymer exhibits substantially the same properties and characteristics. (It is noted that the claims are drawn to a method of polymerizing olefins, rather than a process for making film. It is the examiner's position that the film properties recited in the instant claims are conditional properties, rather than inherent properties, because a variety of factors such as stretching methods, nucleation, *inter alia*, directly affect film clarity and film haze). Since the PTO can not perform experiments, the burden of proof is shifted to the Applicants to establish an unobviousness difference. *In re Fitzgerald*, 619 F.2d. 67, 205 USPQ 594 (CCPA 1980). See MPEP § 2112-2112.02. *In re Best*, 562 F.2d 1252, 1255, 195 USPQ 430, 433 (CCPA 1977).

³ McDaniel *et al.* (col. 4, lines 39-45) teaches that known metallocenes are used to make inventive catalysts such as those shown in Geerts (U.S. 5,480,848; col. 7, line 2) and Palackal *et al.* (U.S. 5,401,817; claim 9), the entire disclosure of which is incorporated by reference.

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10. Claims 38-40, 42, 43 and 48 are rejected under 35 U.S.C. 102(b) as being anticipated by Collins *et al.* (U.S. 6,524,987).

Collins *et al.* teaches a catalyst composition comprising the contact product of at least one organometal compound, at least one organoaluminum compound, and at least one treated solid oxide. Solid oxide supports are alumina, zirconia, titania, and combinations such as silica-zirconia (col. 6, lines 65-67 and col. 7, line 40) that have been treated with sulfate, fluoride, chloride, or bromide (col. 7, lines 46-52) with chlorided alumina and sulfated alumina being especially useful (Table 1). Note that supports are substantially free of titanium, molybdenum, and tungsten.

Specific examples of metallocene appear in column 5 (see claim 7 for nomenclature). nonyl(phenyl)silylbisindenyl hafnium dichloride, is depicted in col. 6, line 52. Other bridged metallocenes that are useful for practicing the invention include isopropylidene(cyclopentadienyl)(fluorenyl)zirconium dichloride and diphenylsilyl (cyclopentadienyl)(fluorenyl)zirconium dichloride.⁴ Organoaluminum compounds are described in full in column 6. Isobutane diluent is used for assembling catalyst components (claim 32). Aluminoxanes and ionic activators such as fluorinated organoborates may be used in certain conditions (col. 11, lines 56-60). As such, the subject matter of the instant claims is fully anticipated by Collins *et al.*

11. Claims 1-15, 18-33, 36, 37 46, and 47 are rejected under 35 U.S.C. 102(b) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over Collins *et al.* (U.S. 6,524,987).

The discussion of the disclosures of the prior art from the previous paragraph of this office action is incorporated here by reference. Inventive catalysts are useful for copolymerization of ethylene with at a C₃-C₂₀ α -olefin (claim 34). Thus, the catalyst and process of use for preparing copolymer is taught fully by the prior art.

⁴ Collins *et al.* (col. 4, lines 55-62) teaches that known metallocenes are used to make inventive catalysts such as those shown in Geerts (U.S. 5,480,848; col. 7, line 2) and Palackal *et al.* (U.S. 5,401,817; claim 9), the entire disclosure of which is incorporated by reference.

Collins *et al.* is deficient in characterizing the resulting polymer as recited in the instant claims. However, in view of the fact that the process of preparing polymer is substantially the same as that recited in the instant claims, a reasonable basis exists to believe that the resulting polymer exhibits substantially the same properties and characteristics. (It is noted that the claims are drawn to a method of polymerizing olefins, rather than a process for making film. It is the examiner's position that the film properties recited in the instant claims are conditional properties, rather than inherent properties, because a variety of factors such as stretching methods, nucleation, *inter alia*, directly affect film clarity and film haze). Since the PTO can not perform experiments, the burden of proof is shifted to the Applicants to establish an unobviousness difference. *In re Fitzgerald*, 619 F.2d. 67, 205 USPQ 594 (CCPA 1980). See MPEP § 2112-2112.02. *In re Best*, 562 F.2d 1252, 1255, 195 USPQ 430, 433 (CCPA 1977).

12. Claims 38-40, 42, 43 and 48 are rejected under 35 U.S.C. 102(e) as being anticipated by McDaniel *et al.* (U.S. 6,750,302).

McDaniel *et al.* teaches a catalyst composition comprising the contact product of at least one organometal compound, at least one organoaluminum compound, and at least one treated solid oxide. Solid oxide supports are alumina or silica-titania that have been treated with fluoride and chromium (claims 1 and 2, col. 10, lines 11-18). Note that supports are substantially free of titanium, molybdenum, and tungsten. One specific example of metallocene, nonyl(phenyl)silylbisindenyl hafnium dichloride, is depicted in col. 6, line 35. Other bridged metallocenes that are useful for practicing the invention include isopropylidene (cyclopentadienyl)(fluorenyl)zirconium dichloride and diphenylsilyl(cyclopentadienyl)(fluorenyl)zirconium dichloride.⁵ Organoaluminum compounds are disclosed in column 9. Catalyst components are contacted in the presence of isobutane diluent (claim 15). Aluminoxanes and ionic activators such as fluorinated organoborates may be used in certain conditions (col. 13, lines 54-58). As such, the subject matter of the instant claims is fully anticipated by McDaniel *et al.*

⁵ McDaniel *et al.* (col. 4, lines 25-31) teaches that known metallocenes are used to make inventive catalysts such as those shown in Geerts (U.S. 5,480,848; col. 7, line 2) and Palackal *et al.* (U.S. 5,401,817; claim 9), the entire disclosure of which is incorporated by reference.

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13. Claims 1-15, 19-33, 37, 46, and 47 are rejected under 35 U.S.C. 102(b) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over McDaniel *et al.* (U.S. 6,750,302).

The discussion of the disclosures of the prior art from the previous paragraph of this office action is incorporated here by reference. Inventive catalysts are useful for copolymerization of ethylene with at a C₃-C₂₀ α -olefin (claim 17). Thus, the catalyst and process of use for preparing copolymer is taught fully by the prior art.

McDaniel *et al.* is deficient in characterizing the resulting polymer as recited in the instant claims. However, in view of the fact that the process of preparing polymer is substantially the same as that recited in the instant claims, a reasonable basis exists to believe that the resulting polymer exhibits substantially the same properties and characteristics. (It is noted that the claims are drawn to a method of polymerizing olefins, rather than a process for making film. It is the examiner's position that the film properties recited in the instant claims are conditional properties, rather than inherent properties, because a variety of factors such as stretching methods, nucleation, *inter alia*, directly affect film clarity and film haze). Since the PTO can not perform experiments, the burden of proof is shifted to the Applicants to establish an unobviousness difference. *In re Fitzgerald*, 619 F.2d. 67, 205 USPQ 594 (CCPA 1980). See MPEP § 2112-2112.02. *In re Best*, 562 F.2d 1252, 1255, 195 USPQ 430, 433 (CCPA 1977).

Response to Arguments

14. The rejections of claims set forth in paragraphs 4, 5, 8 and 11 of the previous office action have been overcome by amendment. Claim rejections set forth in paragraphs 6, 7, and 10 were not applicable, and the rejections have been withdrawn. The rejection under 35 U.S.C. 112, 1st paragraph has been withdrawn in light of claim amendments.

The obviousness type double patenting rejections over claims of copending 10/720,024 and U.S. 6,613,852, set forth in the office action dated October 3, 2005, are hereby formally withdrawn.

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Conclusion

15. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Rip A. Lee whose telephone number is (571)272-1104. The examiner can be reached on Monday through Friday from 9:00 AM - 5:00 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Vasu S. Jagannathan, can be reached at (571)272-1119. The fax phone number for the organization where this application or proceeding is assigned is (571)273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <<http://pair-direct.uspto.gov>>. Should you have questions on the access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll free).

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October 11, 2007

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